

IP Camera

IE Browser User's Manual

V 3.0

Statement

Thank you for using our IP camera products. This series of products are all-in-one IP cameras designed for network video surveillance, including box IP camera, infrared box IP camera, dome IP camera, speed dome IP camera, etc. The products adopt high performance and powerful single SOC chip media processor to integrate audio and video capture, compression and transmission. Standard H.264 Main Profile coding algorithm ensures clearer and smoother video transmission effect. Built-in Web Server allows users to easily perform real-time monitoring and remote control over front-end cameras via IE browser.

This series of IP cameras is suitable for small and medium-sized enterprises, families, and other environments that require remote network video transmission and monitoring. It is easy to install and operate.

Before installation, please check to see whether you have the product and all accessories ready. If anything is missing, please contact your supplier in time.

Package contents:

1 IP Camera	----1pc
2 Power Adapter (model depends on the camera model)	----1pc
3 User 's Manual	----1pc
4 Compact Disk	----1pc
5 Certificate of quality	----1pc
6 Warranty Card	----1pc

Optional Accessories:

1 WIFI Antenna	----1pc
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Notes:

- “IP Camera” mentioned in this manual refers to network camera, including box IP camera, dome IP camera, infrared box IP camera, speed dome IP camera, etc.
- Click - press the left mouse button once
- Double-click - press the left mouse button twice

Note:

- Contents in this manual may be different from the edition that you are using. Should any unsolved problem occur given that the product is used according to this manual, please contact our technical support department or your product suppliers.
- The content of this manual may be updated at irregular intervals without prior notice.

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1 Download and install ActiveX

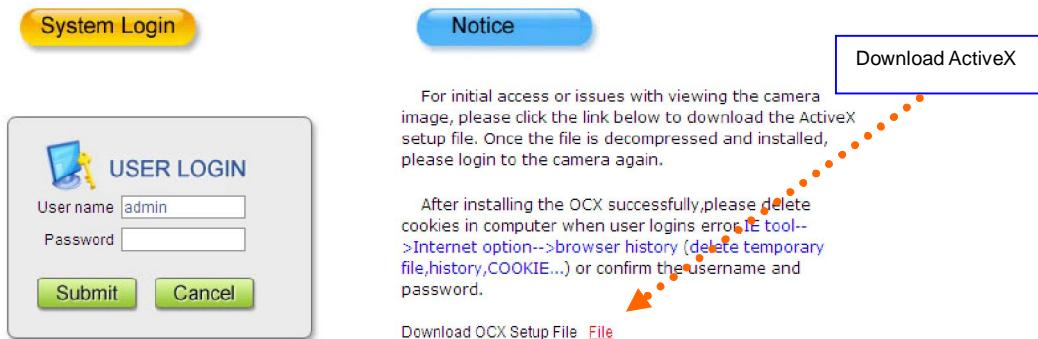
You need to install ActiveX Control when you visit IP camera for the first time through IE browser.

ActiveX installing method:

Download installation

Input the IP address of IP camera in Internet Explore to enter into login page,

Click [File] to download the ActiveX:

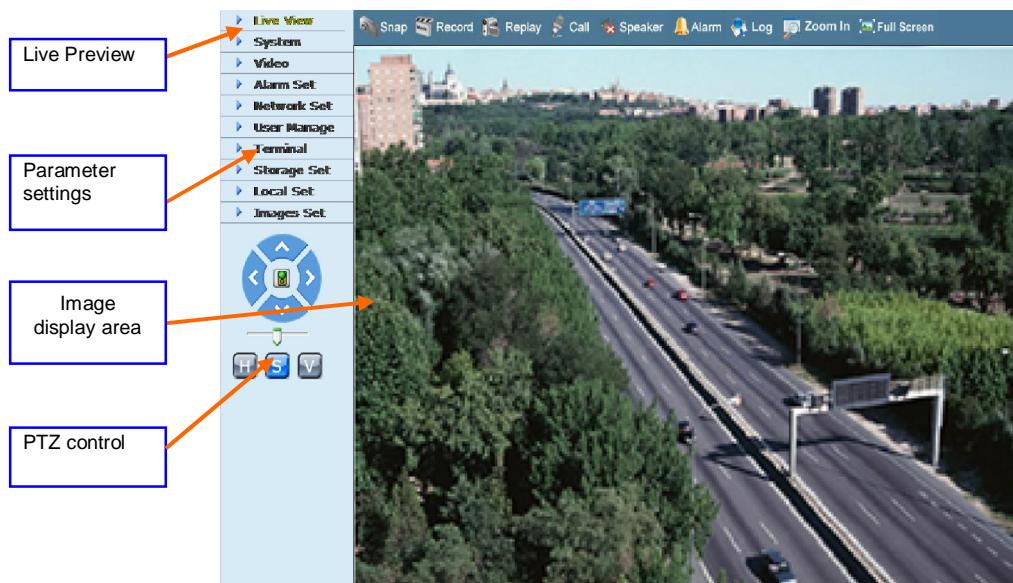


File download dialogue box pops up, click [Run] or [Save] to download ActiveX, after download it , double-click the downloaded file “xdview.exe” to install it. After installation completes, a message “Register OCX success ! ” will appear(see the picture below):



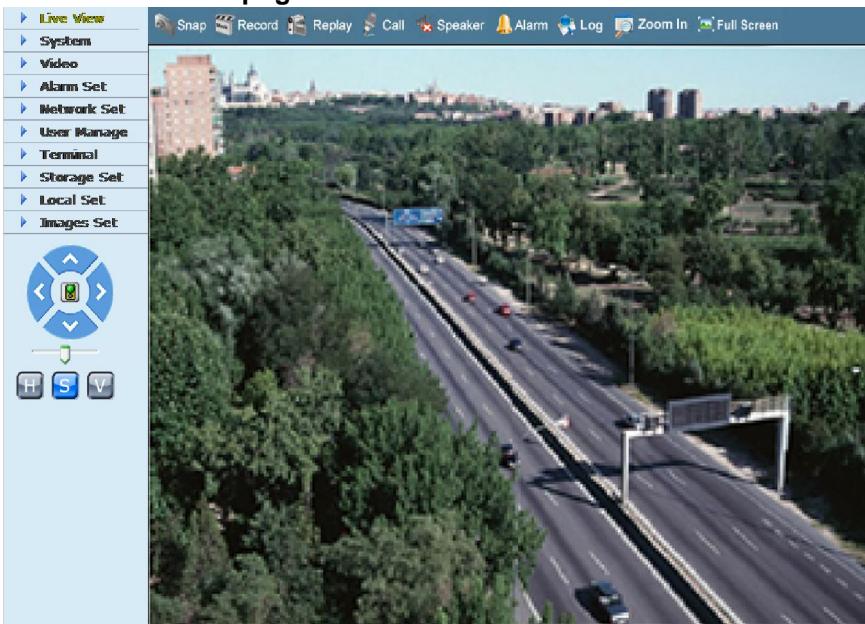
2 Login

Reopen Internet Explorer after ActiveX installation completes, input IP address of the IP camera to turn to login page, enter username (default setting is **admin**) and password (default setting is **admin**), click login to enter into main interface. See below picture:



3 Live Preview

See below for the Liveview page:



In the Liveview interface, users can do operations like Snapping, Recording, Playback, Talkback, Monitoring, Clear Alarm, Log Search, Local Zoom of Image, Full-screen Viewing, Lightness and Color Adjustment and Lens Control.

[Snap]: click “Snap”, snap the current image and save it in .JPG format automatically to the storage directory of snapped images.

[Record]: Manual image recording, automatically record current images and save them in .264 format to the storage directory of recorded images after the recording function turned on.

Displayed status after recording starts:

[Playback]: Click “Playback”, the playback page will pop up for searching and playback of recorded files or snapped pictures.

[Talkback]: After turn on the audio talkback switch, the talkback between PC and IP camera can be performed given that audio talkback device is installed to the IP camera. The displayed status after audio turns on:

[Monitoring]: After switch on the monitoring switch, PC can monitor the sound at the device end.

The displayed status after monitoring starts :

[Alarm]: When there is an alarm, double-click [Alarm] to cancel the alarm manually.

[Log]: Allow users to search for operations and alarm log. The maximum capacity is 512 entries of message, when the number of entries exceeds 512, system will delete records of the earliest date automatically.

[Zoom In]: This feature allows the manual drag and drop of video display area to realize partial zoom in.

[Full Screen]: Display images in full-screen, right click to exit full screen mode.

[PTZ Control]: Allows four-directional rotation, automatic adjustment of PTZ rotation speed, encase below picture:

[Video Parameters]: Adjust the lightness, contrast, chroma, saturation of video, see the picture below:

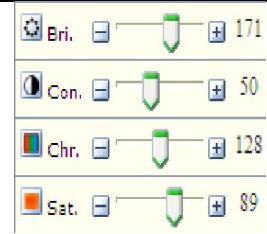
[Lens Control]: Allows PTZ operations like Zoom, Focus, Aperture, Light, Brush, Preset, and Recall, see the picture below:



PTZ Control



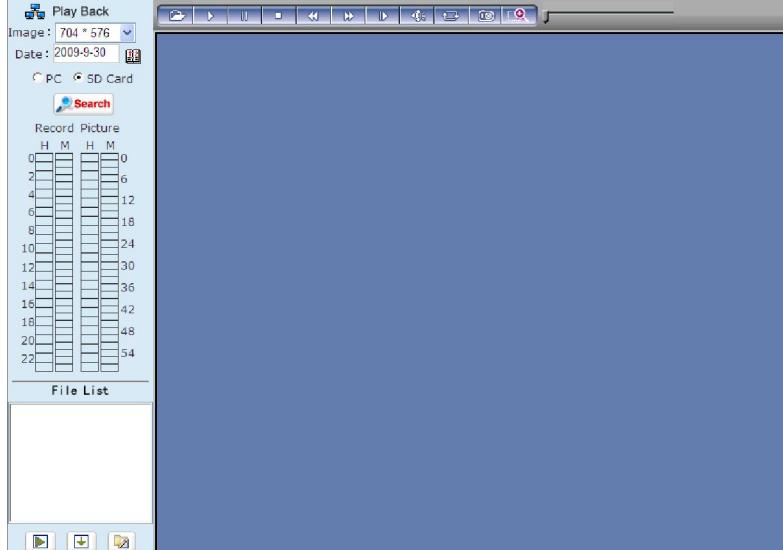
Lens Control



Video Parameters

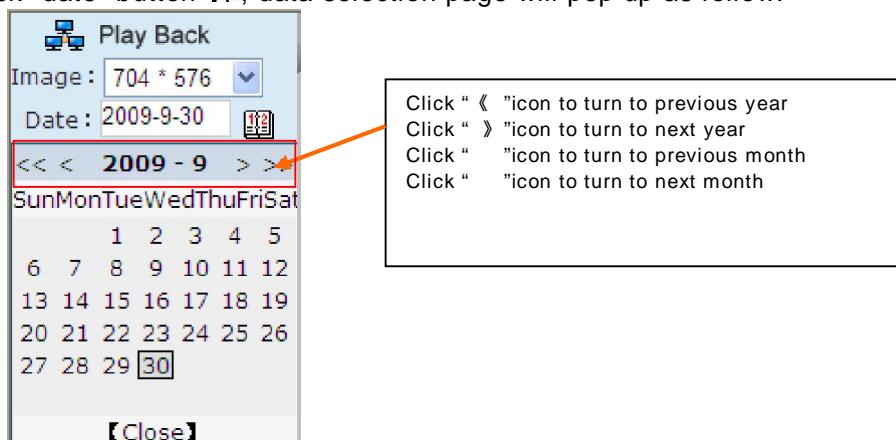
4 Record playback

Click [Playback] button: **Replay**, enter into video playback page as follow:



Users can search for recorded image files or snapped pictures in local PC or storage device according to date.

[Date]: Users can select certain date to perform recorded image file or snapped picture searching, click "date" button , data selection page will pop up as follow:

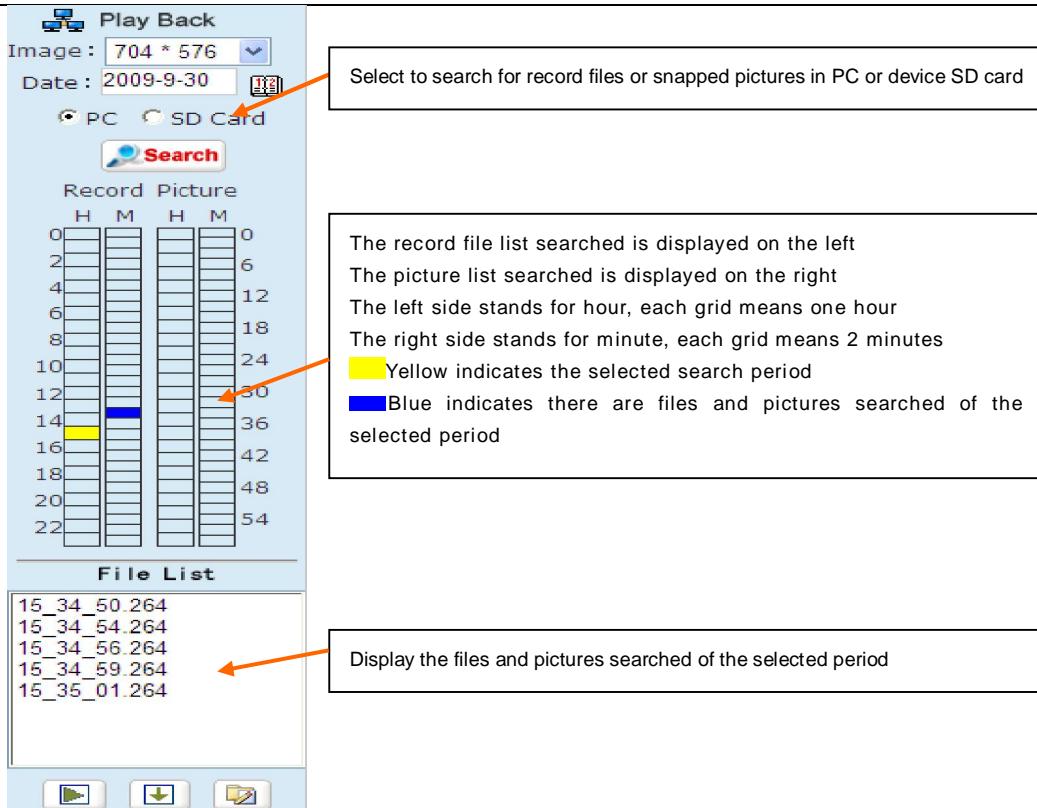


[Local]: Users can select certain date to perform recorded image file or snapped picture (stored in local PC) searching.

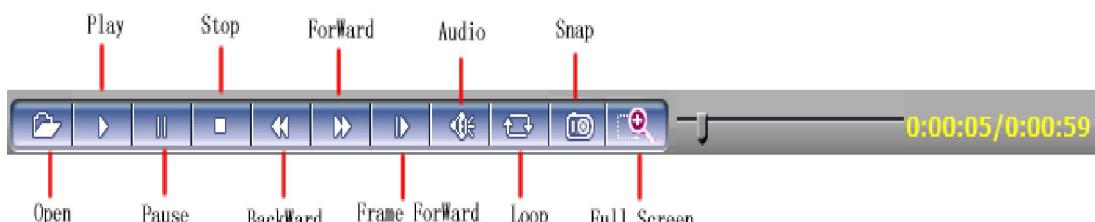
[Device]: Users can select certain date to perform recorded image file or snapped picture (stored in device SD card) searching.

[File List]: Shows the recorded image files or snapped pictures searched in the File List.

The way to search for recorded image files or snapped pictures of a specific period:

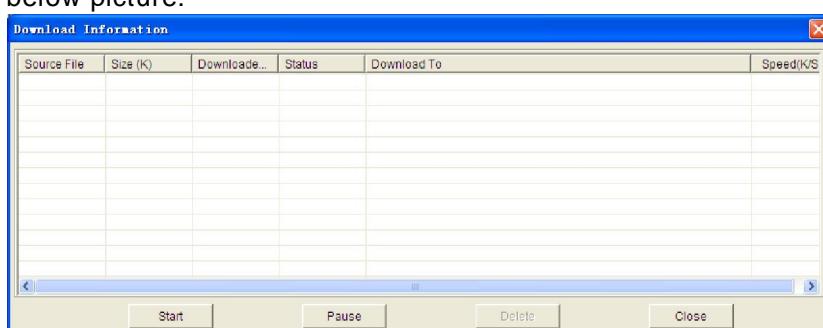


[Play]: Choose the recorded image or snapped picture in file list, right click the file or picture or click “play” button to play. The contents will be displayed in the right window, users can view the playing information and control the process, see below picture:



[Download]: Select the recorded files or snapped pictures searched from SD card in the file list, click “download” button to download the files to PC.

[Download information]: Users can view the information downloaded after clicking “Download”, see below picture:

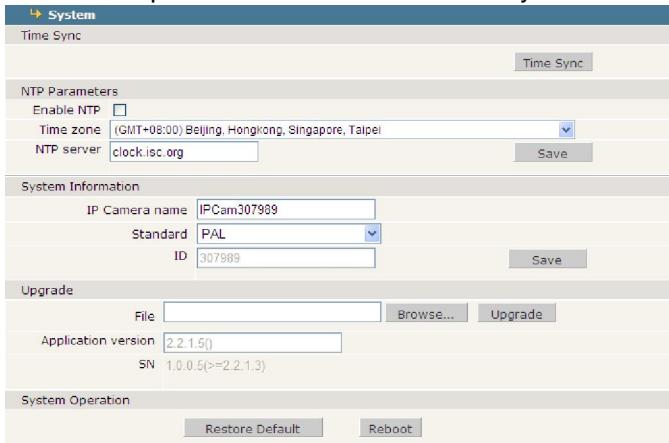


Click **[Pause]** to pause download manually , click **[Start]** to continue to download the unfinished files , click **[Delete]** to delete the downloaded files , click **[Close]** to close the download information interface.

5 Set System Parameters

5.1 System Settings

See below picture for the interface of “System Settings”:



[System Clock]: click “synchronize with system” to synchronize the date and time of IP camera with those of the PC.

[Network Clock Setup]: after starting the function, switch on NTP switch and select time zone, save it to turn to **[Liveview]**, the system time that has been automatically corrected by NTP server can be displayed.

[System Information]: Display device name, device number, etc. Device name can be user-defined.

[Reset]: All device parameters (including network parameters, excluding physical address) will be recovered as factory setting values.

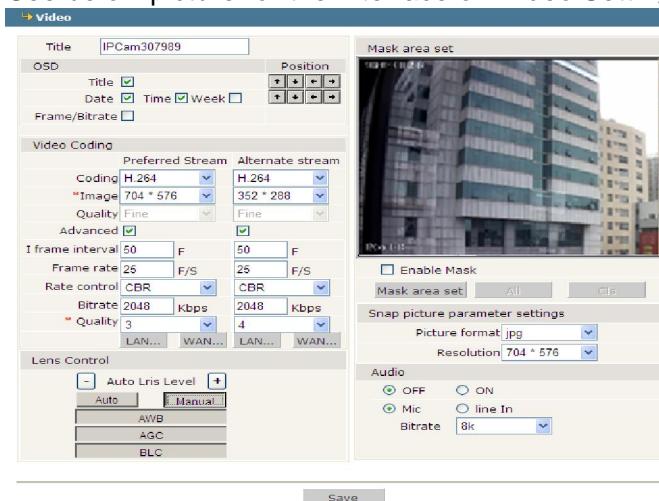
[Reboot]: Click [Reboot], the IP camera will restart automatically after 5 seconds.

[Upgrade]: Click “Review” button, and select correct file of upgrade (kernel file, suffix.uot),click [upgrade], then you can upgrade your system, the completion rate will be displayed during this process. After upgrade completes, IP camera will restart automatically. Re-log in device, enter into system settings page, check to see whether the kernel edition is the upgraded edition. For example: kernel edition of the current IP camera is (V2.2.1.2), the latest edition obtained from supplier is (V2.2.1.3), then the kernel edition after upgrade should be V2.2.1.3.

Note: Don't cut off the power and internet connection while upgrading.

5.2 Video Settings

See below picture for the interface of “Video Settings”:



Video interface of CCD models

[Video Name]: the name of video channel, displayed at the bottom left of image(movable), maximum characters allowed: 32.

[Title Overlay]: display or not to display name, date, time, week and frame rate/bitrate of channels.

[Position Adjustment]: Can adjust the display position of video title.

[Preferred and alternate streams]: set up video parameters for preferred and alternate streams.

[Coding algorithm]: H.264 and MJPEG.

[Definition]: set definition of images, modes supported are:

PAL mode – four definition format: D1(704*576)/Half-D1(704*288)/CIF(352*288)/QCIF(176*144)

NTSC mode – four definition formats:

D1(704*480)/Half-D1(704*240)/CIF(352*240)/QCIF(176*120).

[Image Quality]: users can choose the right quality according to their needs: Best, Good, Normal, and the parameters can also be user-defined by checking [advanced settings] checkbox.

[I frame interval]: adjustable between 5 ~ 200. Smaller I frame interval means higher image bitrate and better image quality. It is recommended to set the I frame interval as above 25.

[Frame Rate]: set encoding frame rate per second. Under poor network condition, frame rate can be reduced to control encoding bitrate to make motion images flow more smoothly.

[CBR/VBR]: CBR and VBR are optional. CBR adopts constant encoding bitrate, VBR adopts variable encoding bitrate.

[Bitrate]: the range of preferred and alternate stream is 30~16384Kbps. Higher bitrate setting can generate better image quality, but it occupies more bandwidth, please adjust the setting according to your actual bandwidth.

Under CBR setting, [Bitrate] is the constant bitrate of encoding.

Under VBR setting, [Bitrate] is the variable bitrate of encoding.

[Image Quality]: under CBR setting: set the bitrate range via "Image Quality", 1 means it is controlled by the software.

Bitrate range, 2~6 means corresponding bitrate range is ±10% ~
±50%

Under VBR setting: set image quality via "Image Quality", smaller value of image quality means better quality and higher bitrate, but the bitrate will not exceed its set value.

[LAN default value]: I frame interval: 100, frame rate: 25, bitrate: VBR, 2048kbps, image quality:2

[WAN default value]: I frame interval: 25, frame rate: 5, bitrate: CBR, 384kbps, image quality:4

Note: Non-professional users please use "Advanced Settings" with caution

[Auto Iris Level]: adjust the control level of auto-iris to control the illumination of lens iris. "-": reduce illumination of auto-iris, "+": increase illumination of auto-iris. Works only on auto-iris lens.

[Auto]: select this button when using auto-iris lens.

[Manual]: select this button when using manual-iris lens.

[Auto White Balance]: select this button to realize automatic adjustment of white balance.

[Auto Gain Control]: Enabling auto gain will improve the effect of images under low illumination.

[Back Light Compensation]: When there is strong light behind the monitored objects, illumination compensation will be provided in the required range to get better image quality.

[Video Masking On/Off]: enable or disable video masking.

[Masking Area Setup]: right click and move cursor to set image masking area, an image can be entirely or partially masked, maximum 4 areas supported.

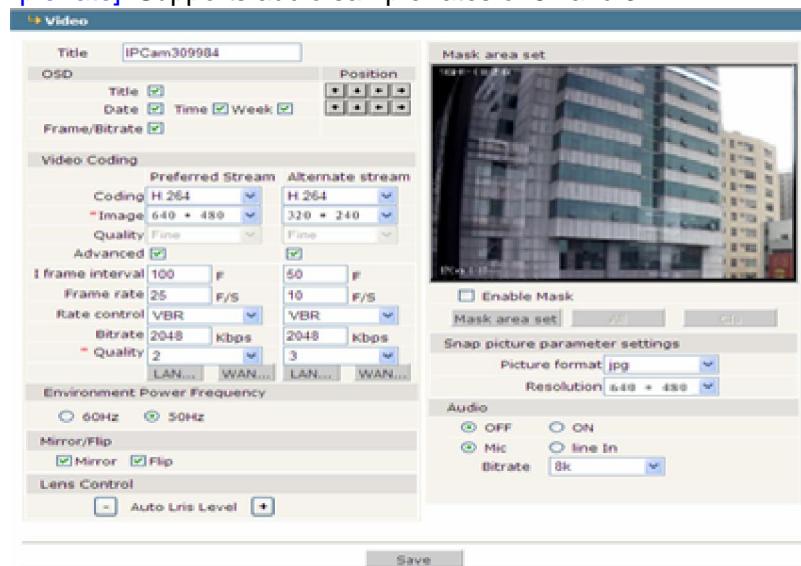
[All]: mask the whole image.

[Clear]: clear masked areas.

[Parameter setup for snapshot function]: supports only images of JPG format currently, definition is the same as set in [video definition].

[Audio on/off]: turn on or turn off the audio of IP camera, users can choose MIC or linear input, When there is no need for audio, close audio input to save DSP resource and network resource. Audio is disabled by default.

[Sample rate]: Supports audio sample rates of 8k and 32k.



Video interface of CMOS model

[Definition]: set image definition, supported definitions are VGA(640*480), QVGA(320*240) and QQVGA(160*128).

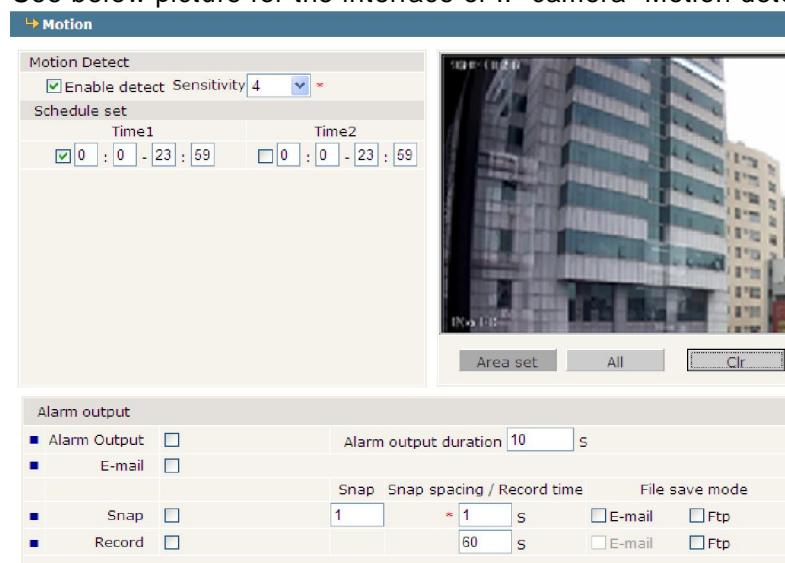
[Power Frequency]: Environment power frequency of the device. In indoor environment, if the flashing of lamps results in the flickering of images, please choose 50HZ or 60HZ according to the power frequency.

[Video Mirror/Rollover]: set video mirror(vertical mirror of images) and rollover(horizontal rollover of images).

5.3 Alarm Settings

5.3.1 Motion detection

See below picture for the interface of IP camera "Motion detection":



In this page, users can set features like motion detection on/off, sensitivity, detection time, linkage alarm output, alarm output duration, E-mail sending when alarm been triggered, linkage

snapping/recording, etc.

[Detection On/Off]: enable or disable motion detection.

[Sensitivity]: sensitivity range is 1~5, greater value means higher sensitivity.

[Detection time setup]: set the period of time for motion detection, two periods allowed.

[Linkage Alarm output]: enable or disable linkage alarm output

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.0 means that there is no limit for alarm output.

[E-mail sending]: Send video loss detection alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: When alarm is triggered, the device SD card will be driven to snap pictures. The pictures can be saved via E-mail sending or FTP uploading. For snapping parameters, if the number of pictures snapped at one time is set as 10, and the snapping interval is 1 second, that means when there is an alarm, 10 pictures will be snapped and the interval between each picture is 1 second.

[Linkage recording]: When alarm is triggered, the device SD card will be driven to record images. The record files can be saved via E-mail sending or FTP uploading.

[Set detective area]: left click and drive the mouse to set the surveillance areas (4 areas at most).

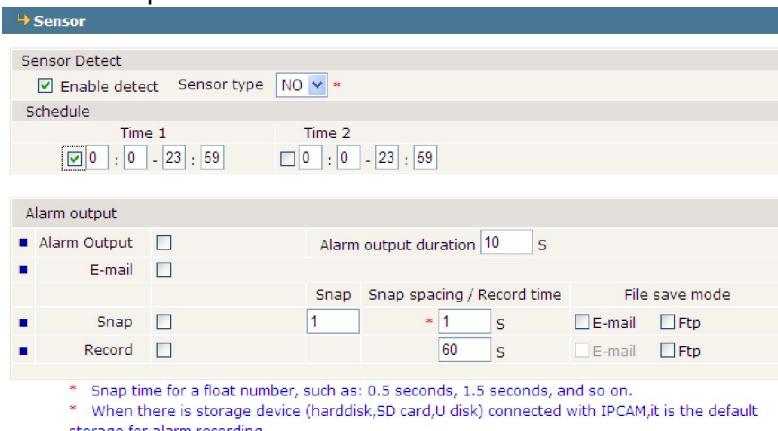
[All]: set the whole video as motion detection area.

[Clear]: clear all motion detection areas.

After setting all the parameters, click [save] to make the parameters valid.

5.3.2 Sensor Alarm

See below picture for the interface of IP camera "Sensor Alarm":



Set sensor alarm parameters here: detection on/off, sensor type, detection time, linkage alarm output, linkage output duration, E-mail sending when alarm has been triggered, linkage snapping/recording, etc.

[Detection On/Off]: enable or disable sensor alarm detection.

[Sensor Mode]: NO and NC mode.

[Detection time setup]: set the period of time for sensor alarm detection, two periods allowed.

[Linkage Alarm output]: enable or disable linkage alarm output

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.0 means that there is no limit for alarm output.

[E-mail sending]: Send sensor alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: When alarm is triggered, the device SD card will be driven to snap pictures. The pictures can be saved via E-mail sending or FTP uploading. For snapping parameters, if the

number of pictures snapped at one time is set as 10, and the snapping interval is 1 second, that means when there is an alarm, 10 pictures will be snapped and the interval between each picture is 1 second.

[Linkage recording]: When alarm is triggered, the device SD card will be driven to record images.

The record files can be saved via E-mail sending or FTP uploading.

After setting all the parameters, click [save] to make the parameters valid.

5.3.3 Network Failure Alarm

See below picture for the interface of IP camera “Network Failure Alarm”:

Network fault alarm detect	
<input checked="" type="checkbox"/> Enable detect	
Alarm output	
■ Alarm output <input type="checkbox"/>	Alarm output duration <input type="text" value="10"/> s
■ E-mail <input type="checkbox"/>	
	Snap Snap spacing / Record time File save mode
■ Snap <input type="checkbox"/>	<input type="text" value="1"/> * <input type="text" value="1"/> s <input type="checkbox"/> E-mail <input type="checkbox"/> Ftp
■ Record <input type="checkbox"/>	<input type="text" value="60"/> s <input type="checkbox"/> E-mail <input type="checkbox"/> Ftp

* Snap time for a float number, such as: 0.5 seconds, 1.5 seconds, and so on.

* When there is storage device (harddisk,SD card,U disk) connected with IPCAM,it is the default storage for alarm recording.

Set network failure alarm parameters here: detection on/off, linkage alarm, alarm output duration, E-mail sending when alarm has been triggered, linkage snapping/recording, etc.

[Detection On/Off]: enable or disable network failure alarm detection.

[Linkage Alarm output]: enable or disable linkage alarm output

[Alarm Output Duration]: Set the duration of the linkage alarm output after being triggered (in seconds), the range of the duration is 0~86400s.0 means that there is no limit for alarm output.

[E-mail sending]: Send network failure alarm information to users via E-mail, details about E-mail setting please refer to [Network Settings].

[Linkage Snapping]: When alarm is triggered, the device SD card will be driven to snap pictures.

The pictures can be saved via E-mail sending or FTP uploading. For snapping parameters, if the number of pictures snapped at one time is set as 10, and the snapping interval is 1 second, that means when there is an alarm, 10 pictures will be snapped and the interval between each picture is 1 second.

[Linkage recording]: When alarm is triggered, the device SD card will be driven to record images.

The record files can be saved via E-mail sending or FTP uploading.

Note: When network failure occurs, E-mail sending and FTP uploading cannot be performed, the pictures and recorded files will be stored in SD card. E-mail sending and FTP uploading will resume after network is recovered.

After setting all the parameters, click [save] to make the parameters valid.

5.4 Network Settings

5.4.1 Basic settings

See below picture for the interface of IP camera “Network Settings”:

[Basic Parameters]

DHCP: If DHCP function of the router is enabled, IP camera will automatically fetch IP address from the router.

IP Address: Set the device IP of IP camera

Subnet mask: default value is 255.255.255.0 (users are recommended not to change it).

Gateway: Set the gateway IP of IP camera, for example when the device is connected to public network via a router, the gateway IP is the router IP.

Physical address: the MAC address of IP camera (users are recommended not to change it).

Data port: default value is 5000 (users are recommended not to change it).

Web port: default value is 80 (users are recommended not to change it).

DNS address: The default DNS address is the DNS address of Guangdong province, users outside the area please use DDNS function to set the DNS address as their local DNS address.

Note: after revise and save parameters, the device will restart. If it is applied in LAN, please pay attention to avoid conflict between its IP address and the IP addresses of other devices or PC in the LAN.

[Wi-Fi settings]

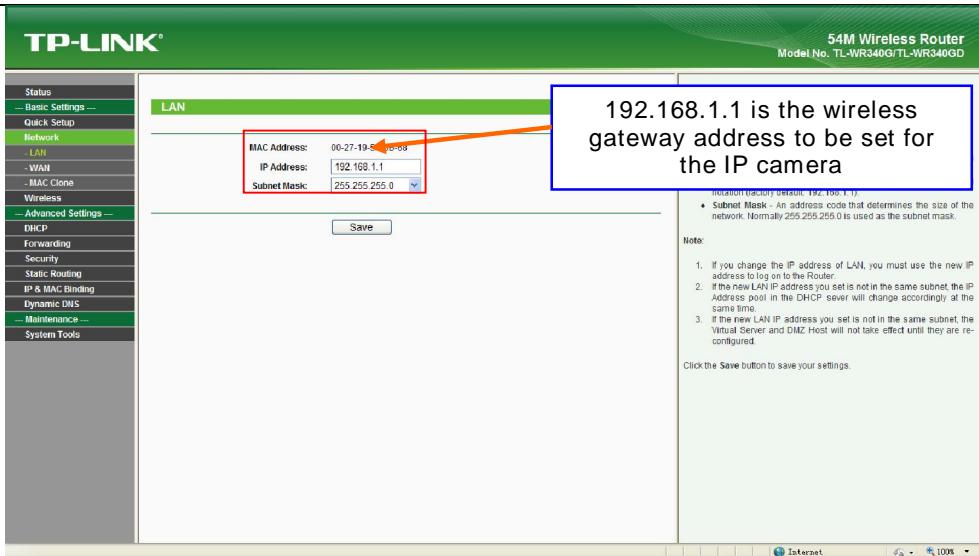
Note: applies to models with Wi-Fi function only.

A wireless router needs to be deployed in order to use the Wi-Fi function of IP camera, e.g.

TP-Link WR340G 54M wireless router. The content and steps of the settings are as follows:

1 Network parameters setup for wireless router

First enter into the wireless router "network parameter" page under the menu "LAN Setting", set the IP of wireless router



2 Turn to the “basic settings” page under “wireless parameters” menu,

(1) Set SSID:

This SSID is for identity validation of wireless network, it must be the same as the SSID setting of the IP camera

(2) Frequency range

It determines the frequency range of the network, which is 1~13, default value is 6. Note:

If your neighbor also uses wireless network and its frequency is 6,
you should consider revise this parameter to 1 or 13 to reduce radio interference between

the two routers.

(3) Mode

Set the working mode of wireless router. The mode must be compatible with the supported modes of IP camera.

Wireless mode supported by IP camera: 802.11b/g protocol (low power Wi-Fi model)

802.11a/b/g/n protocol (high power Wi-Fi model)

(4) Enable Wi-Fi function (compulsory)

(5) Open security setting (optional)

This option can enable the security certification of wireless router. If it is enabled, users need to select the corresponding security mode (encryption mode) and set up authentication password.

(6) Select security type (encryption mode)

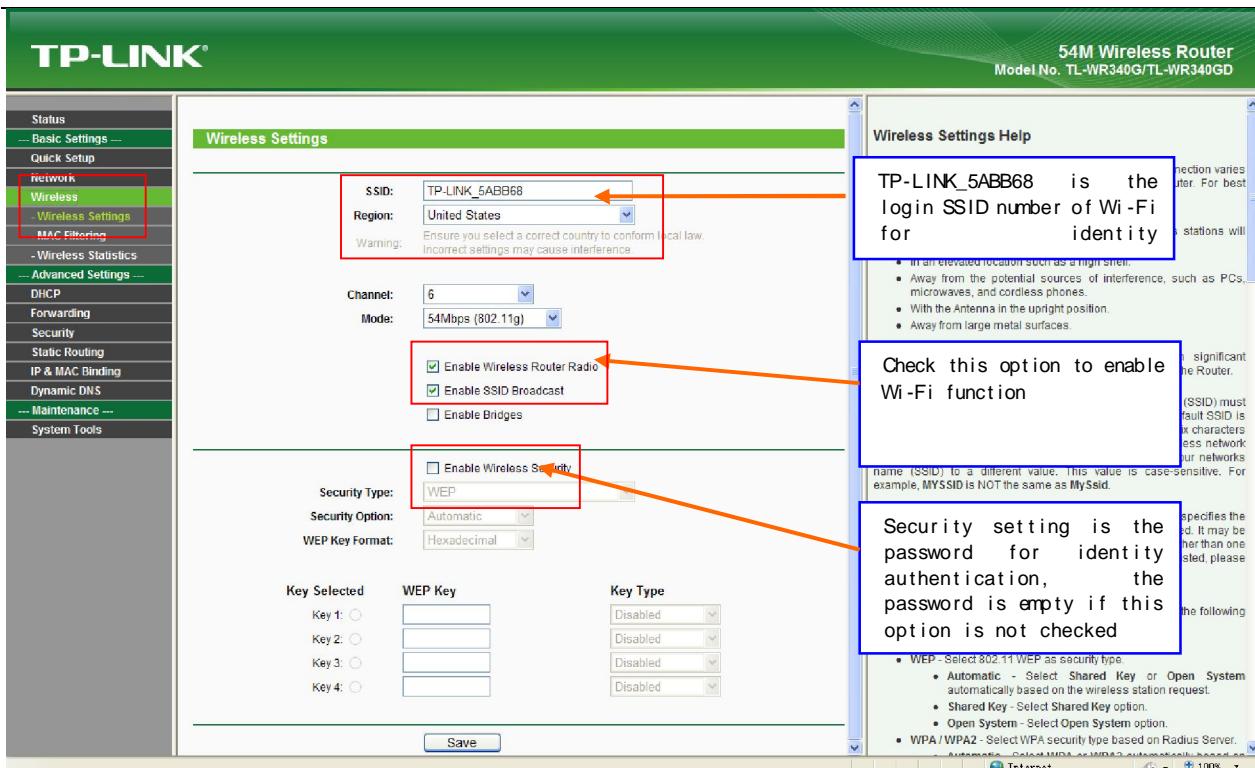
WEP, WPA and WPA2

(7) Security options

WEP security type: developing system, sharing key and auto-selection

WPA, WPA2 security type: TKIP and AES

(8) Set key (authentication password)



3 WiFi function settings of IP camera:

(1) Wireless network on/off

Select this switch will enable Wi-Fi function of IP camera.

(2) IP address

Set the wireless IP address of IP camera, e.g. 192.168.1.160.

(3) Gateway

Set the IP address of current wireless gateway, e.g. 192.168.1.1.

(4) SSID number:

It is the login name of Wi-Fi for identity authentication, it must be the same as the SSID number of the wireless router (e.g. TP-LINK_5ABB68).

(5) Password

It is the login name of Wi-Fi for identity authentication, it must be the same as the key of the wireless gateway (router/AP).

(6) Master authentication encryption type

Three encryption types are WEP, WPA and WPA2. Its selection must be the same as the security type setting of wireless gateway (router/AP).

(7) Auxiliary encryption mode

WEP security type: developing system, sharing key and auto-selection

WPA, WPA2 security type: TKIP and AES

It must be the same as the security option setting of wireless gateway (router/AP).

After setting completes, save all parameters. Then disconnect the network cable, IP camera can be visited via wireless IP, such as 192.168.1.160.

Note:

- ⊕ The wireless network IP address and cable network IP address cannot be in the same segment.
- ⊕ The Wi-Fi switch appears to be grey when IP camera doesn't have Wi-Fi function.

[DDNS settings]

Bind the device with a fixed domain name by DNNS setting so that visiting to the device can

be realized no matter how the public IP changes. (refer to Appendix 3 for detailed steps)

DDNS On/Off: enable or disable DDNS function.

Link mvddns.net: click this link to turn to www.mvddns.net, users can sign up on this website.

DDNS service provider: mvddns.net, 3322.org and user ddns server are selectable.

DDNS User Name: User registered in DDNS server.

DDNS Password: User password registered in DDNS server.

DDNS Domain Name: The domain name set up by users, e.g.: test1.mvddns.net.

DDNS Address: DDNS server address. When DDNS address is the domain name, please set the DNS address in [Basic Parameters] correctly.

DDNS port: default value is 30000 (users are recommended not to change it).

Data mapping port: fill in the external data port mapped by the IP camera on the router that is connected to public website.

Web mapping port: fill in the external web port mapped by the IP camera on the router that is connected to public website.

[PPPOE settings]

PPPOE on/off: enable or disable PPPOE dial-up function.

PPPOE address: after successful setting of device dial-up, it will display the public IP Address.

PPPOE user name: ADSL dial-up account, obtain from the IP service provider.

PPPOE password: ADSL dial-up password, obtain from the IP service provider.

On-line duration: start timing after dial-up to see the online duration after successful dial-up.

[Active connection mode]

Active connection switch: enable or disable active connection of the device to surveillance center.

Central server address: the address of surveillance center (e.g. 192.168.55.8).

Central server port: the port of surveillance center (e.g. 6000).

After setting all the network parameters, click [save] to make the parameters valid.

5.4.2 Advanced settings

See below picture for the interface of IP camera "Advanced Settings":

[Mail settings]

To set the mailbox addresses and parameters of alarm mails and public network IP mails.

SMTP server: the address of servers that send the mails, the address format of mail servers varies from provider to provider, e.g. the SMTP server of 163 mailbox is smtp.163.com.

Mail sending address: mailbox that sends mails.

Mail receiving address: mailbox that receives mails.

SMTP user name: the login user name of the mailbox that sends mails.

SMTP password: the login password of the mailbox that sends mails.

Mail title: title of mails.

SMTP Port: port of SMTP port, different mail server has different port. For example, the server port of Gmail is 465.

Commonly used mail server configuration:

Gmail mail server:

 SMTP server: smtp.gmail.com

 SMTP user name: username@gmail.com

 SMTP port: 465

 SSL: enabled

Yahoo mail server:

 SMTP server: smtp.mail.yahoo.com

 SMTP user name: username@yahoo.com or username@yahoo.com.cn

 SMTP port: 465

 SSL: enabled

163 mail server:

 SMTP server: smtp.163.com

 SMTP user name: username

 SMTP port: 25

 SSL: disabled

[FTP settings]

FTP server sends the record files and snapped images generated after alarm is triggered in FTP mode to specified FTP server, supports 2 FTP servers, when the preferred one goes wrong, system will switch to the alternate one.

FTP URL: the IP address or HTTP address of FTP server.

FTP port: port of FTP server, the default port is 21.

Remote path: path on remote FTP server, if the path doesn't exist or has not been filled in, the device will create a file folder under the root directory of FTP server.

FTP user name and password: user name and password of FTP server.

Note: Users must have the authority to write on the FTP server in order to upload record files and snapped images.

[UPNP settings]

Auto-mapping of port, when IP camera is connected to a router with UPNP function enabled, the router will automatically map the port in UPNP settings to public network, manual port mapping by users is not necessary.

UPNP NIC: select the type of NIC connecting UPNP router. For WiFi models, when IP camera is connected to router via WiFi network, select "wireless" mode.

UPNP Modes: specified mode and auto mode.

 Specified mode means to specify data mapping port and web mapping port to router.

 Auto mode means data mapping port and web mapping port are set up by router.

UPNP server: IP address of the router with UPNP.

Data mapping port: data mapping port of user-specified device on the router(works only under specified mode).

Web mapping port: web mapping port of user-specified device on the router(works only under specified mode).

Data mapping port status: When UPNP function runs successfully, the status bar will echo the

data port mapped to the router by the device.

Web mapping port status: When UPNP function runs successfully, the status bar will echo the web port mapped to the router by the device.

After setting all the parameters, click [save] to make the parameters valid.

[RTSP settings]

RTSP on/off: check RTSP switch to enable RTSP function.

RTSP port: default port is 554.

With RTSP function enabled, users can review the audio and video streams in real time via players that supports standard RTSP protocol (e.g. VLC, Quicktime).

[Public IP mail notification]

Mail notification on/off: check this switch to enable public IP mail notification function.

Interval: select the interval of public IP mail notifications.

After enable this function, when the device starts or detects public IP change, it will send notification mail to the mail address set in "mail settings".

5.5 User Management

See below for IP camera user manager settings interface:

User Management

Select user	Administrator
User name	admin
Password	admin
Confirm password	
Save	

Notice: User name, Password may consist of a-z, 0-9, underscores, and a single dot (.), 1 to 16 characters; capitalization matters.
Modify User name or Password, please login again.

You can set three users for every camera, one is Administrator, the others are general users.

Administrator authority: can operate and set all functions and parameters of IP camera

General user authority: (1) can perform operations like snapping, recording, playback,

talkback, monitoring, alarm clearing, log searching, zooming and full-screen reviewing;

(2) Can perform operations like visit setting, image lightness and color adjustment, PTZ and lens control, etc.

Note: User name and password must be 1-16-character-strings consisted by letters, numbers, underlines or dots. The characters are case sensitive.

Default user name of administrator: admin	Password: admin
Default user name of general user: user 1 \user 2	Password: user 1 \user 2
Note: user name and password are case sensitive	

5.6 Front-end Settings

See below picture for the interface of IP camera "Front-end Settings":

COM Set		Embedded PTZ Protocol		
COM	RS485			
Baudrate	2400	<input type="button" value="Browse..."/>	<input type="button" value="Upload"/>	
Data bits	8			
Stop bits	1			
Check type	None			
Flow ctrl	None			

[Serial port settings]: When IP camera is connected to RS485 (or RS232) communication or control device (e.g. PTZ decoder, dome camera), the parameters of RS485 (or RS232) need to be set according to the settings of the communication control device (address, protocol, baud rate), and the corresponding protocol need to be downloaded.

Note: Only when the parameters and protocol are correctly set that the control of add-on communication control device can be implemented.

[PTZ decoder protocol]

Decoder address: 1~255.

Built-in protocol: echo the built-in protocol name of current IP camera.

PTZ decoder protocol file uploading: to upload the decoder/dome camera communication protocol selected by users. The system supports hundreds of decoder/dome camera communication protocols, it can also be defined by users according to the standard format of protocols.

After setting all the parameters, click **[save]** to make the parameters valid.

5.7 Storage Device

5.7.1 Device Management

See below picture for the interface of IP camera “Device Management”:

Storage device Info

ChooseNO.	TotalSize(M)	FreeSize(M)	State

[Format](#) [Refresh](#)

Storage device record parameters

Code stream	Preferred Stream	Record file packet time	<input type="button" value="1"/> M
-------------	----------------------------------	-------------------------	------------------------------------

Other parameters

<input checked="" type="checkbox"/> Overwrite old files when disk is full
<input type="checkbox"/> Auto search the storage device when start

* When the device is not linked to the storage device (hard drive, SD Card, U disk), the device does not have function to store, But the video files, pictures can sent to the mail server to upload and Ftp
 * SD card hot-swap is not recommended.it may damage the SD card files.

[Storage Device information]: view information of SD card here, including total capacity, free capacity, and formatting status. Users can also click [Formatting] button to format SD card, during the formatting process, please click [Refresh] button to the display formatting completion percentage.

[Device Recording Parameters]

Stream selection: set record stream for SD card, preferred stream and alternate stream are selectable.

Record files packing interval: set packing intervals for each segment of record file when SD card is recording. 1 means files will be packed every 1 minute.

[Other Parameters]

Automatically delete old files when storage device gets full: when the storage capacity of SD card is used up, the device will delete old files automatically. The way to delete old files: first delete the files of the earliest date, if the space is still not enough, then delete the files of the earliest date but one, then go on like this if necessary. If the record files are taken on the current date, then first delete the files of the earliest hour. But files of the current hour cannot be deleted, if the SD card gets full in one hour, the device will stop recording and snapping images. After the one-hour session ends, system will delete the files of the hour and continue to record and snap pictures.

Scan the disk when device starts: check storage device or not when IP camera starts.

C Note:

1 Hot-plugging is not recommended for SD card, compulsory hot-plugging may damage the SD card, causing data loss or abnormal operation.

2 Do not cut off the power of the device during formatting process.

3 ext2 file is used to format system by default.

After setting all the parameters, click [save] to make the parameters valid.

5.7.2 Record Schedule

See below picture for the interface of IP camera “Record Schedule”:



* When there is storage device (harddisk,SD card,U disk) connected with IPCAM,it is the default storage for schedule recording.

[Device Record Schedule]: set the period of scheduled recording, two periods allowed.

[Record file storage mode]: set to save scheduled recorded files to FTP server via FTP uploading,

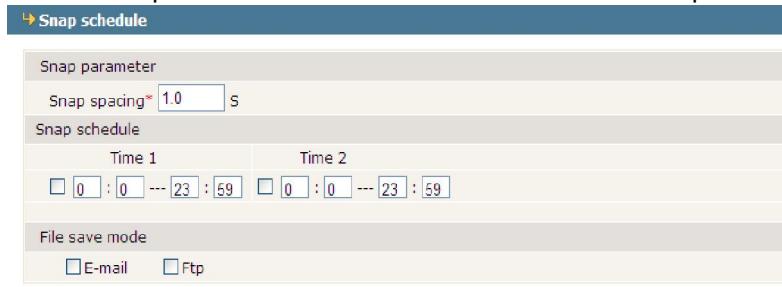
FTP server can be set up in [FTP settings].

Note: record files are saved via FTP uploading. SD card is needed for cache memory support, otherwise record files will be overwritten by new files due to insufficient cache memory space.

After setting all the parameters, click [save] to make the parameters valid.

5.7.3 Snap Schedule

See below picture for the interface of IP camera “Snap Schedule”:



* Picture resolution and format in the "video" set.
* When there is storage device (harddisk,SD card,U disk) connected with IPCAM,it is the default storage for schedule snapshot.

[Picture snapping parameters of the device]: set the interval of IP camera picture snapping, minimum interval is 1 second.

[Device Snap Schedule]: set the period of scheduled snapping, two periods allowed.

[Snapped files saving mode]: IP camera snapped pictures can be saved via E-mail sending or FTP

uploading. E-Mail server can be set up in [Mail Settings], FTP server can be set up in [FTP Settings].

After setting all the parameters, click [save] to make the parameters valid.

5.8 Visit Settings

See below picture for the interface of IP camera “Visit Settings”:



[PC live preview parameters setup]

Stream selection: set video stream for PC live preview, preferred stream and alternate stream are selectable. The parameters of preferred and alternate stream can be set up in [Video Settings].

Preview mode: users can choose real-time priority or fluency priority mode according to their needs.

[Anti-crack]: select this option to make image quality better, but CPU usage rate will be higher at the same time.

[PC record storage settings]

Record files packing time: set packing time of record files for local PC when it is recording.

Record/snapped files storage directory: set the storage directory for local records and snapped files, the default path is C:\XDNVS.

Appendix 1 Network Interface of IP Camera

The default network ports of IP camera are:

TCP	80	Web port
	5000	Communication port, audio/video data transmission port, talkback data transmission port
UDP	5000	Audio/video data transmission port
Multi-cast port	Multicast original port + channel number	

Appendix 2 Default Network Parameters

Default network parameters

Cabled Network:	IP Address: 192.168.55.160 Subnet mask: 255.255.255.0 Gateway: 192.168.55.1	Data Port: 5000 Web Port: 80 DHCP: Off
Wireless Network:	IP Address: 192.168.1.160 Gateway: 192.168.1.1 Subnet mask: 255.255.255.0	

Note:

The wireless network IP address and cable network IP address cannot be in the same segment.

Appendix 3 Apply for DDNS domain name service

1 IP camera DDNS introduction

Ø DDNS function of IP camera

DDNS (Dynamic Domain Name Service) refers to the real-time analysis of a fixed domain name and the dynamic public IP address of the IP camera.

With this function, all Internet users can visit the IP camera via a fixed domain name.

Ø The DDNS process of IP camera is as follow:



The DDNS process flow diagram of IP camera

2 Apply for DDNS domain name service

Step 1: Sign up

Users need to sign up to manage and inquire about domain name status when using this

IP Camera User's Manual

dynamic domain name management system for the first time. Visit DDNS server (<http://www.mvddns.net>) to sign up. See the picture below:

The screenshot shows the 'Dynamic Domain' management interface. It includes a login form with fields for UserID and Password, and buttons for Login, Register, and Forget Password?; an announcement section with a message about the new DNS server; and a registration form titled 'Take "*" of have to fill in' with fields for UserID, Password, Confirm password, Name, ID card number, Address, Telephone, Email, Hint problem, and Key. Buttons for Confirm and Reset are at the bottom.

Step 2: User login

Enter registered user name and password, click "login" to enter into domain name management interface as follow:

This is a simplified screenshot of the login page from the IP Camera User's Manual. It shows a 'Login' button and a 'Register' link above a form with 'UserID' and 'Password' fields, and 'Login' and 'Reset' buttons below.

Step 3: Domain name registration

A domain name must be registered first, then put into use. Click "Domain name management", a page appears as follow:

This screenshot shows the 'Dynamic Domain list' management interface. It has a sidebar with 'Customer' options like Account, Domain, Information, Password, and LogOut. The main area has a 'Domain' input field with 'http://test2009.mvddns.net' and a 'Remarks' input field. Below is a table with columns: Domain, IP, Device Name, IsOnline, Allow Analyze, and Operation. A row shows 'zhmonth' with IP '221.182.46.87', Device Name 'IPCam305110', IsOnline 'Off-line', Allow Analyze 'Using', and Operation buttons for Delete and Detail. At the bottom, there are notes: 'Add an domain not a demand an importation an ex- suffix , eg:demo1.mvddns.net Only Demand importation 'demo1'. Click 'allow analyze' item, can carry on a modification to the domain's information.'

Register and submit the domain name to be used. For example: "test.mvddns.net".

Appendix 4 Visit IP camera under different network environments

You can visit IP camera with your PC via LAN or WAN, the following contents will tell you how to use IP camera under different network environments.

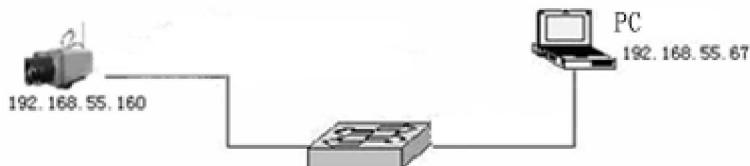
1 LAN

There are two ways to connect IP camera to LAN: static IP and dynamic IP

Ø Static IP

Static IP means that Your network administrator assigns a LAN IP address to IP camera. The IP of your PC and IP camera must be in the same network segment to make visiting to the camera possible.

See below picture for the network topology:



Please refer to below picture for the network settings:

Basic Parameters	
Enable DHCP	<input type="checkbox"/>
IP address	192.168.55.160
Subnet mask	255.255.255.0
GateWay	192.168.55.1
MAC	00-4a-20-a4-b0-2d
Data port No.	5000
HTTP port No.	80
Preferred DNS	202.96.134.133
Alternate DNS	202.106.0.20
WiFi Parameters	
Enable WiFi	<input checked="" type="checkbox"/>
IP address	192.168.1.160
Subnet mask	255.255.255.0
GateWay	192.168.1.1
SSID	zhangl
Password	*****
type of encryption	WEP
Auxiliary encryption	Open System
Frequency band	Auto
Mode	Auto

Setup steps:

Step 1: Log in IP camera via the IE browser (the default IP is 192.168.55.160).

Step 2: Switch to the page [network settings], fill in the device IP address assigned by network administrator in to [Basic Parameters], e.g. 192.168.55.160;

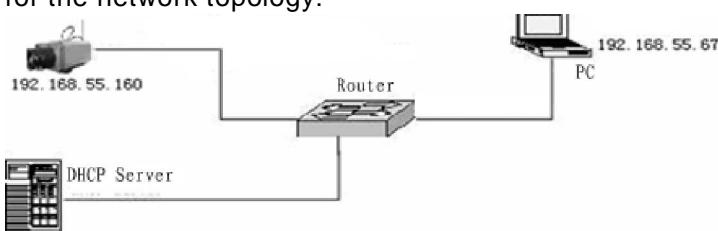
Step 3: Fill in subnet mask, default value is 255.255.255.0;

Step 4: Fill in gateway address, default value is 255.255.255.0;

Click [Save] to save the parameters. Start the device, enter its IP address into IE browser to visit it.

Ø Dynamic IP

Dynamic IP means that IP camera obtains IP address from DHCP server. See below picture for the network topology:



Please refer to below picture for the network settings:

Network	
Basic Parameters	
Enable DHCP	<input checked="" type="checkbox"/>
IP address	192.168.55.160
Subnet mask	255.255.255.0
GateWay	192.168.55.1
MAC	00-4a-20-a4-b0-2d
Data port No.	5000
HTTP port No.	80
Preferred DNS	202.96.134.133
Alternate DNS	202.106.0.20

Log in IP camera via IE, turn to [Network Settings] and check [DHCP on/off].

After setting all the parameters, click [save] and restart to make the parameters valid.

2 Internet

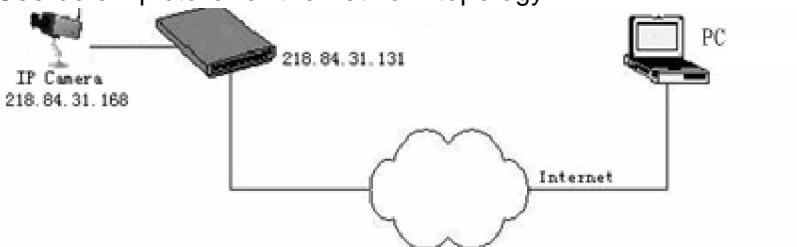
You have three ways to connect IP camera to Internet:

- Ø Fixed IP mode;
- Ø Broadband and router sharing Internet access mode (dynamic obtainment of extranet IP address mode) like ADSL and so on;
- Ø PPPoE dial-up access.

After IP camera is connected to Internet, remote Internet users can visit it directly via domain name or IP address.

Ø Fixed IP mode

See below picture for the network topology:



Please refer to below picture for the network settings:

Network	
Basic Parameters	
Enable DHCP	<input type="checkbox"/>
IP address	192.168.55.160
Subnet mask	255.255.255.0
GateWay	192.168.55.1
MAC	00-4a-20-a4-b0-2d
Data port No.	5000
HTTP port No.	80
Preferred DNS	202.96.134.133
Alternate DNS	202.106.0.20

Setup steps:

Step 1: Log in IP camera via crossover cable direct connection.(For details, please refer to [Hardware Installation])

Step 2: Switch to the page [network settings], fill in the device IP address requested from network service provider in to [Basic Parameters], e.g. 218.84.31.168;

Step 3: enter correct subnet mask, e.g. 255.255.255.192;

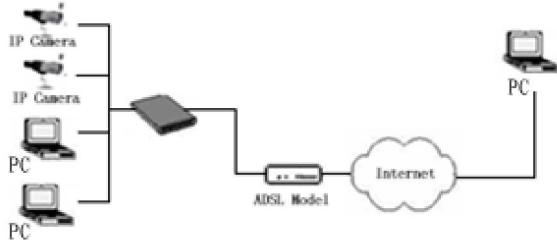
Step 4: enter correct gateway, e.g. 218.84.31.131;

After setup completes, click [Save] and restart the device, then connect it to public network so that all Internet users can visit the IP camera remotely via entering http://218.84.31.168 to IE

browser.

Ø Broadband and router sharing Internet access mode (dynamic obtainment of extranet IP address mode) like ADSL and so on;

For dial-up access with router, see below picture for the network topology:



Users can set up DDNS domain name service at the same time. Fills the username and password which were applied in the DDNS server into the DDNS setting item, implement port mapping from the router. The router determines and points to the IP camera that need to be visited according to different ports, long-distance Internet user can visit the IP camera on the network via domain name directly.

Please refer to below picture for the network settings:

DDNS Parameters	
Enable DDNS	<input checked="" type="checkbox"/> Link to mvddns.net
DDNS provider	mvddns.net
DDNS regName	zhmonth
DDNS password	*****
DDNS domain	zhmonth.mvddns.net
DDNS server URL	www.mvddns.net
DDNS server Port	30000
Data port map No.	5000
HTTP port map No.	80
Domain E.C.:	test1.mvddns.net

DDNS setup steps:

Step 1: Log in DNNS server (e.g.<http://www.mvddns.net>), register user account and password.(For details, please refer to Appendix 3)

Step 2: Click to open DDNS;

Step 3: Select DDNS service provider, e.g. mvddns.net;

Step 4: Fill in the registration name to log into DDNS server;

Step 5: Fill in the registration password to log into DDNS server;

Step 6: fill in the domain name applied on DDNS server, e.g. test.mvddns.net;

Step 7: Fill in DDNS server address, e.g.www.mvddns.net ;

Step 8: fill in the port of DDNS server, default value is 30000 (users are recommended not to change it);

Step 9: fill in the port number of public network data after mapping, the default port is 5000.If several IP cameras are connected to one router, different web ports need to be specified for each device, and port mapping needs to be done for every specified port.

Step 10: fill in the port number of public network web after mapping, the default port is 80.If several IP cameras are connected to one router, different web ports need to be specified for each device, and port mapping needs to be done for every specified port.

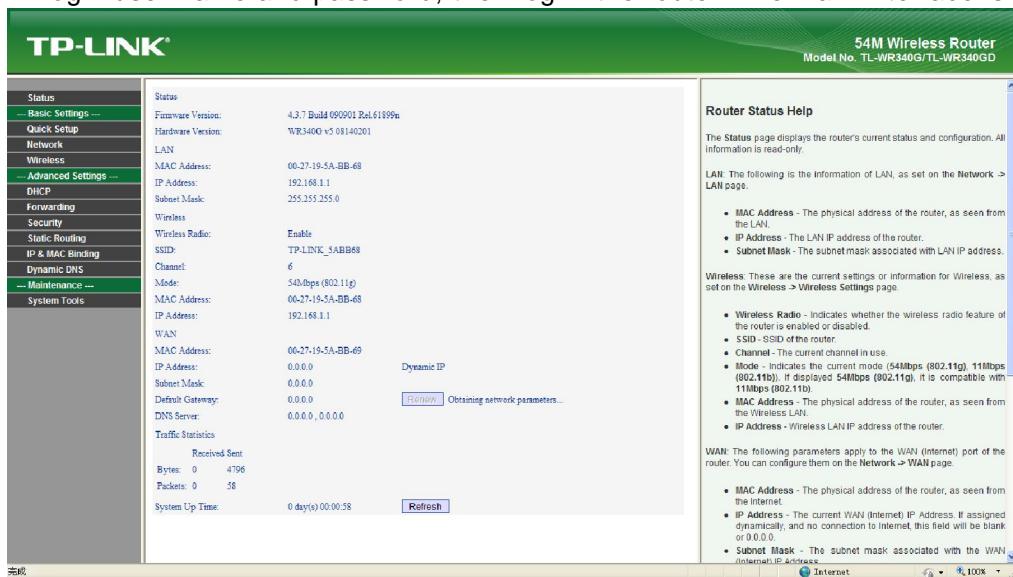
After setting all the parameters, click [\[save\]](#) and restart to make the parameters valid.

Port mapping setup steps:

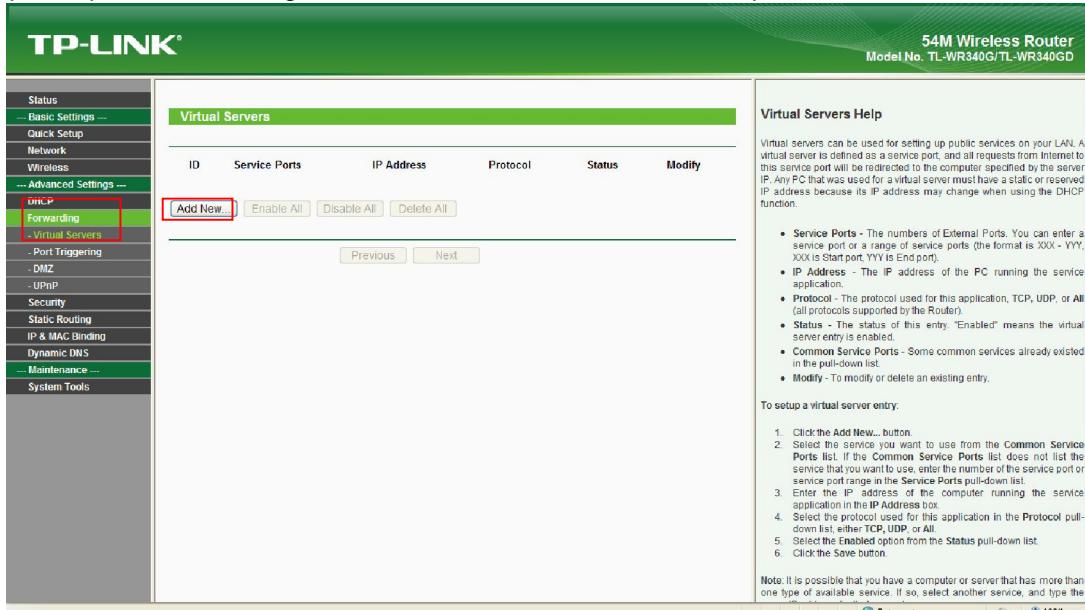
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Take the TL-WR340G router of TP-LINK as an example for illustration:

Step 1: Ask network administrator for the IP address of the router (i.e. LAN gateway address), login user name and password, then log in the router. The main interface is as follow:



Step 2: Open “Forwarding”, select “Virtual Servers” as below picture shows:



Step 3: Select “Add New Items”, enter the IP address of the IP camera (e.g. 192.168.1.100), port (e.g. 85), status (valid) and other information, click save, see below picture:

TP-LINK® 54M Wireless Router
Model No. TL-WR340G/TL-WR340GD

Add or Modify a Virtual Server Entry

Service Port: (XX-XX or XXX-XXX)

IP Address:

Protocol:

Status:

Common Service Port:

Virtual Servers Help

Virtual servers can be used for setting up public services on your LAN. A virtual server is defined as a service port, and all requests from Internet to this service port will be redirected to the computer specified by the server IP. Any PC that was used for a virtual server must have a static or reserved IP address because its IP address may change when using the DHCP function.

- **Service Ports** - The numbers of External Ports. You can enter a single port or a range of service ports (the format is XXX - YYY, XXX is Start port, YYY is End port).
- **IP Address** - The IP address of the PC running the service application.
- **Protocol** - The protocol used for this application, TCP, UDP, or All (all protocols supported by the Router).
- **Status** - The status of this entry. "Enabled" means the virtual server entry is enabled.
- **Common Service Ports** - Some common services already existed in the pull-down list.
- **Modify** - To modify or delete an existing entry.

To setup a virtual server entry:

1. Click the Add New... button.
2. Select the service you want to use from the Common Service Ports list. If the Common Service Ports list does not list the service that you want to use, enter the number of the service port or service port range in the Service Ports pull-down list.
3. Enter the IP address of the computer running the service application in the IP Address box.
4. Select the protocol used for this application in the Protocol pull-down list, either TCP, UDP, or All.
5. Select the Enabled option from the Status pull-down list.
6. Click the Save button.

Note: It is possible that you have a computer or server that has more than one type of available service. If so, select another service, and type the

Step 4: After save successfully, below screen appears:

TP-LINK® 54M Wireless Router
Model No. TL-WR340G/TL-WR340GD

ID	Service Ports	IP Address	Protocol	Status	Modify
1	85	192.168.1.100	All	Enabled	Modify Delete
2	86	192.168.1.111	All	Enabled	Modify Delete
3	9000	192.168.1.112	All	Enabled	Modify Delete

[Add New...](#) [Enable All](#) [Disable All](#) [Delete All](#)

[Previous](#) [Next](#)

Virtual Servers Help

Virtual servers can be used for setting up public services on your LAN. A virtual server is defined as a service port, and all requests from Internet to this service port will be redirected to the computer specified by the server IP. Any PC that was used for a virtual server must have a static or reserved IP address because its IP address may change when using the DHCP function.

- **Service Ports** - The numbers of External Ports. You can enter a single port or a range of service ports (the format is XXX - YYY, XXX is Start port, YYY is End port).
- **IP Address** - The IP address of the PC running the service application.
- **Protocol** - The protocol used for this application, TCP, UDP, or All (all protocols supported by the Router).
- **Status** - The status of this entry. "Enabled" means the virtual server entry is enabled.
- **Common Service Ports** - Some common services already existed in the pull-down list.
- **Modify** - To modify or delete an existing entry.

To setup a virtual server entry:

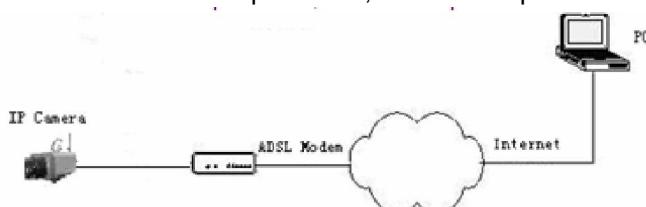
1. Click the Add New... button.
2. Select the service you want to use from the Common Service Ports list. If the Common Service Ports list does not list the service that you want to use, enter the number of the service port or service port range in the Service Ports pull-down list.
3. Enter the IP address of the computer running the service application in the IP Address box.
4. Select the protocol used for this application in the Protocol pull-down list, either TCP, UDP, or All.
5. Select the Enabled option from the Status pull-down list.
6. Click the Save button.

Note: It is possible that you have a computer or server that has more than one type of available service. If so, select another service, and type the

Step 5: If DDNS is successfully set in “Network Settings” of IP camera, direct visit to the IP camera can be realized via entering <http://test.mvddns.net:85> into IE browser.

Ø PPPoE dial-up access

For IP camera dial-up access, see below picture for the network topology:



Setup steps:

Step 1: Log in IP camera via crossover cable direct connection.(For details, please refer to [\[Hardware Installation\]](#))

Step 2: Set PPPoE parameters.(for details, please refer to [\[PPPOE settings\]](#))

Step 3: Connect IP camera to Internet.

Step 4: If DDNS service is successfully set for the device, the device can be visited via entering domain name into IE browser.

See below picture for PPPoE settings:

PPPOE Parameters	
Enable PPPOE	<input checked="" type="checkbox"/>
PPPOE URL	<input type="text"/>
PPPOE username	sz123465@163.gd
PPPOE password	*****
Online time	0minutes

Appendix 5 FAQs

1 Forget Password

Solution: There is a [RESET] button on the back panel of the IP camera, press it to restore all default parameters (Factory Settings), user name and password are both “admin”.

Note: Please don't press RESET if you are not a professional operator. After reset, all parameters will restore factory settings (except for the physical network address).

2 IP camera audio/video function fails after abnormalities or abnormal power cut occur during upgrade, core edition is V4.0.0.0 (Backup file)

Solution: Connect the power cord and network cable of IP camera, press on RESET button and release it after 10 seconds, system will run the back-up programme automatically. After enter into the back-up programme, upgrade system. After upgrade completes, the IP camera will work normally. The back-up programme offers only upgrade and parameter setup functions, audio and video functions are not available.

3 No video image displayed in IE browser

Possible reason: ActiveX not installed

Solution: ActiveX must be installed when visiting IP camera for the first time via Internet Explore.

How to install: Visit IP camera, click [Download Address], file download dialog will pop up, select [Run] or [Save] to download. After download finishes, installation interface will pop up, click “install”, the installation of ActiveX will start automatically, “Register OCX success” dialog box will pop up to remind the completion of installation process.

4 Fail to visit IP camera via IE after upgrade

Solution: Delete the caching of Browser.

Steps: Open IE—click “Tools”—select “Internet Options”—click “delete files” button in “Internet temporary files”, select “delete all offline contents”, then click “OK” and re-log in IP camera.

5 The images do not flow

Possible reason 1: The frame rate of IP camera is too low.

Solution: Increase the video frame rate

Possible reason 2: Too many users are viewing the images.

Solution: Block some clients or reduce the video frame rate.

Possible reason 3: The bandwidth is low.

Solution: Reduce video frame rate or video compression bitrate.

6 Fail to visit IP camera via IE browser

Possible Reason 1: Network is disconnected.

Solution: Connect your PC to network, checking whether it works properly or not. Check whether there is cable failure or network failure caused by PC virus, until PCs can be connected with the command of Ping.

Possible reason 2: IP Address has been occupied by other devices

Solution: Stop the connection between IP camera and Network, hook up IP camera to PC separately, reset IP address according to the proper operations recommended.

Possible reason 3: IP addresses are in different subnets.

Solution: Check IP address, subnet masking address of the DVS and the settings of Gateway.

Possible reason 4: Physical address of network conflict with IP camera

Solution: modify the physical address of IP camera.

Possible Reason 5: Web port has been modified

Solution: Contact Network Administrator to obtain related information.

Possible Reason 6: Unknown

Solution: Press RESET to restore default settings then connect it again, the default IP address is 192.168.55.160, subnet mask is 255.255.255.0

7 The color of images is abnormal (green or other colors)

Solution: Sometimes IP camera images cannot display properly for the difference between Graphics Cards, the images appears to be green or other colors, then you should run the programme Config.exe (or run C:\windows\system32\Config.exe)to set the following parameters of display buffer: auto-detection, used display card memory or system memory, then reopen IE and connect IP camera.

8 There is no sound while monitoring

Possible Reason: No audio input connection

Solution: Check audio connection of the host

Possible Reason 2: the audio option of IP camera is off

Solution: Check audio parameter settings to see if you have opened the audio.

9 Search NVS software cannot find device

Possible reason: Search NVS software adopts multicast protocol to perform searching. But the firewall forbids multicast data packet.

Solution: disable the firewall.

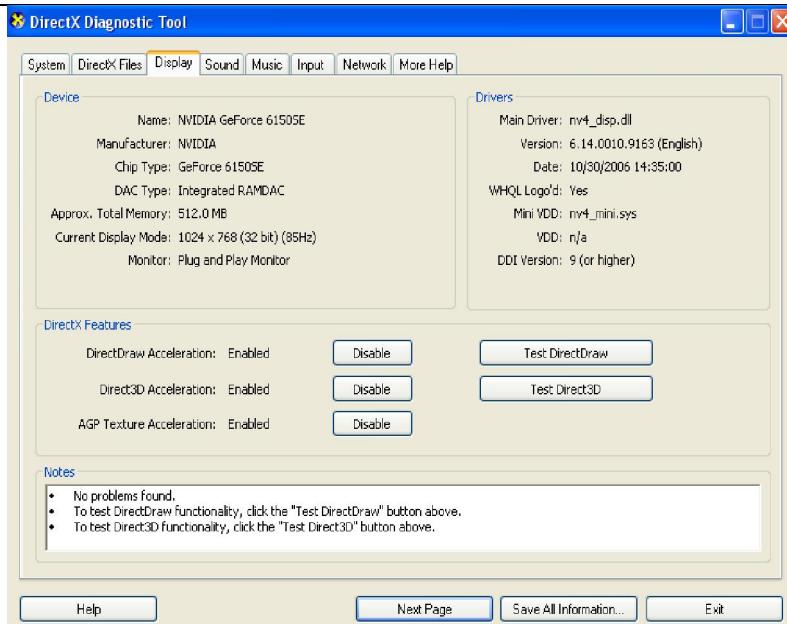
10 Image processing doesn't work properly

Possible Reason 1: system issue, DirectX function is disabled, which will cause slow display of images and abnormal color.

Possible Reason 2: hardware issue, graphics card doesn't support image acceleration and hardware zooming functions.(For hardware issue, the only solution is to replace graphics card)

Solution: install DirectX image drive, then Startà Runà input "DXDIAG" as follows:

IP Camera User's Manual



Note:

Enable DirectDraw speedup, Direct3D speedup, AGP veins speedup in DirectX function. If they can not be enabled, that means DirectX installation fails or hardware not supportive.